Section J

Plutonium Finishing Plant

PROJECT MANAGERS

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INTRODUCTION

The Plutonium Finishing Plant (PFP) consists of Project Baseline Summary (PBS) RL-CP03, Work Breakdown Structure (WBS) 3.3.3.

NOTE: Unless otherwise noted, all information contained herein is as of the end of January 2002.

Fiscal-year-to-date milestone performance (EA, DOE-HQ, and RL) shows that one milestone was completed two days late and one FY 2001 milestone is overdue. Further details can be found in the milestone list.

NOTABLE ACCOMPLISHMENTS

Maintain Safe & Secure SNM WBS 3.3.3.1

The International Atomic Energy Agency (IAEA) monthly Ad-Hoc Inspection was completed January 17th without anomaly. The final phase of walkdowns and mockups for transfer of polycubes from the vaults for thermal stabilization is underway with actual material transfers scheduled to begin in mid to late February 2002.

Maintain Safe and Compliant PFP WBS 3.3.3.2

In an effort to raise awareness to the new Operational Safety Requirements (OSR) for the fire system in 2736-ZB, system training is being revised, the Automated Job Hazard Analysis (AJHA) Fire Protection System Section is being developed, and SOI-01-009, Enhanced OSR Operability Assurance Process has been issued. A deactivation category has been added to the PFP Fire System Restriction Status Report that allows for tracking progress concerning the deactivation of PFP Fire Protection Systems. The Parking Lot Upgrade was completed in late January.

The OA-50 audit team completed their audit pertaining to Integrated Environment, Safety and Health Management System (ISMS) implementation. The preliminary report indicates positive performance in almost all areas and in the implementation of ISMS principles.

Stabilization of Nuclear Material WBS 3.3.3.3

Residues — During January 2002, thirty Pipe Overpack Containers (POCs) were shipped to the Central Waste Complex (CWC). Additionally, 380,140 grams were packaged in 30 POCs. Repackaging of Hanford Ash was completed January 31, 2002 and awaits SGSAS nondestructive assay prior to shipment to the Central Waste complex. At this time milestone TRP-02-504, "Complete Repackaging of Hanford Ash and Ship To CWC" does not appear to be in jeopardy.

Solutions ¾ During January 2002 the Solutions Stabilization Project stabilized 300 liters. Combined with the 930 liters that were completed via the direct discard in December 2001, fifty-three percent by volume and eighty-one percent by weight of Pu have now been processed. Processing of fifty-three containers of Criticality Mass Laboratory (CML) solutions was initiated mid-month following DOE authorization on January 8, 2002 to process the CML solutions in Thermal Stabilization (A&C lines). As Low As Reasonably Achievable (ALARA) in-process controls were successfully implemented to reduce the radiological exposure rates while processing the CML feed material with high levels of Pu_{240}. An "in-process" ALARA review was performed to verify that radiological conditions and personnel exposures were within anticipated estimates approved by the PFP Enhanced ALARA Committee during pre-campaign planning. Actual exposures were about one half of those projected.

Project W-460 ¾ The final phase of Project W-460 construction, construction of the new 2736-ZB building security entrance will be completed in late February. Final walkdown is scheduled for early March 2002.

Thermal Stabilization & Bagless Transfer System (BTS) ¾ Twenty-five Bagless Transfer Containers (BTC) were welded and fifty-seven furnace runs completed. A total of 487 BTCs have been made in the 234-5Z facility as of the end of January. Design was completed for the Thermal Gravimetric Analyzer (TGA) installation in HA-20MB and the Facility Modification Permit issued. The polycube processing accident analysis and safety analysis revisions were completed and forwarded to RL for review and approval. This is the final step prior to completing the startup review and initiating stabilization activities. Numerical analysis was completed of the potential for blowing out a panel as a result of a deflagration resulting from an accident during polycube stabilization in glove box HC-21C. The analysis indicates that the panel will not be blown out and will be peer reviewed prior to integration into the hazards analysis. Material temperature testing to ensure thermal consistency of 950 degrees centigrade was successfully completed in January 2002 to ensure that 3013 thermal stabilization criteria is satisfied. The results of the testing will support a shorter furnace cycle significantly improving process efficiency. The Savannah River Technical Center (SRTC) has completed an evaluation of the effect of weld porosity in 3013 outer container. The technical report will be used to disposition the three hundred and fifty-eight 3013 containers currently in inventory.

Disposition of Nuclear Material WBS 3.3.3.4

The Nuclear Materials Inventory Assessment report was completed and delivered to RL on schedule.

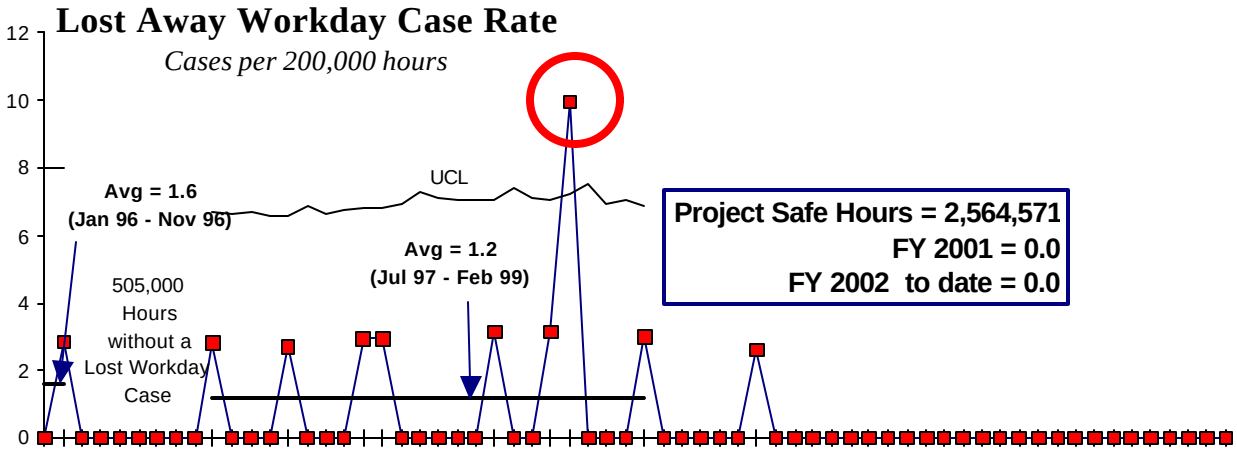
Disposition PFP Facility WBS 3.3.3.5

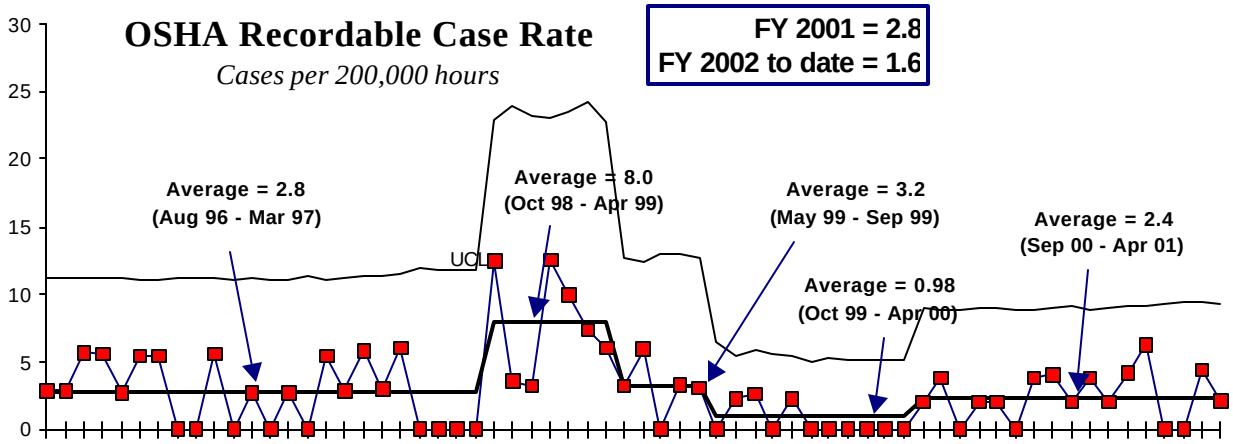
Reassessment of the environmental regulatory strategy of the project is well underway and NEPA planning to support planned work during both the contract period and over the longer term is moving forward with no indication of showstoppers. Detailed discussions with RL & the Washington Department Of Ecology (WDOE) on Tri Party Agreement (TPA) milestones for decommissioning were initiated one day ahead of schedule with notable progress being made in improving relationships and developing draft milestones. Two special studies to assess pros/cons of RCRA/CERCLA and to identify new D&D technologies and work practices in use throughout DOE and the commercial nuclear industry were completed. This has been supported by subsequent information exchanges with Rocky Flats Environmental Technology Site (RFETS), a wide variety of contractors/vendors, including the French. PFP yard enhancement / support structure demolition activities, supporting protected area reconfiguration have been identified and prioritized and work package planning has been initiated. The 241-Z-361 Tank Characterization Report was delivered to RL on Wednesday, January 3, 2002 for subsequent transmittal to the Environmental Protection Agency (EPA) that will regulate the tank remediation effort. Tank A-114 corrective actions, identified in the Facility Vulnerability Assessment (FVA) and the FY 2002 Field Priorities list, have been completed. Work scope included the removal of associated equipment, piping, and the removal of chemical contents from the tank. The tank has been labeled per FSP-PFP, sec 3.16 as "Deactivated". The Safety basis strategy has been developed, received RL concurrence and is undergoing final evaluation by DOE-HQ.

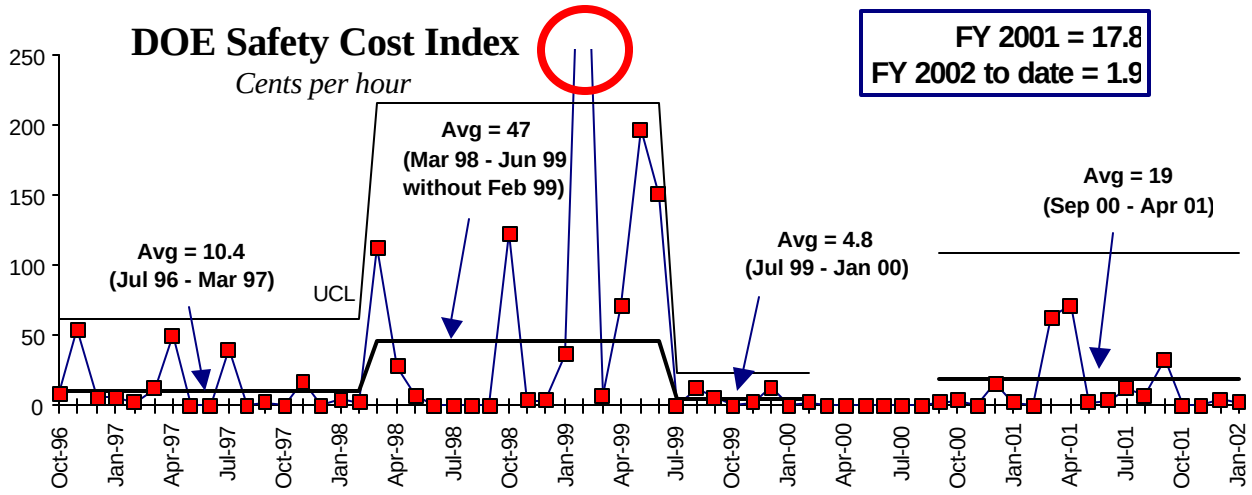
SAFETY

Green

Through December 2001 there were slightly over 2.5 million staff hours since the last recorded lost workday injury. However, two injuries leading to lost workdays in January 2002 will reset the calculation for hours without a lost workday injury to December 18, 2001. This change will be reflected in the February 2002 report.

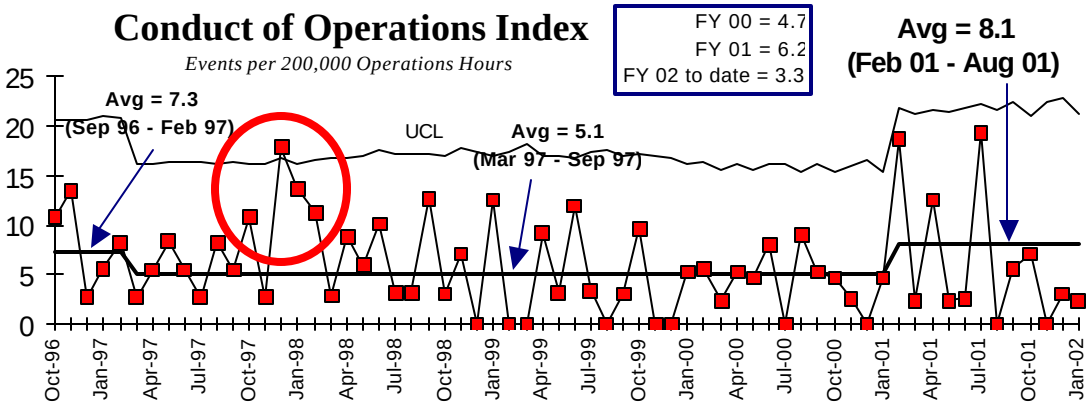






CONDUCT OF OPERATIONS

The Hanford Environmental Health Foundation (HEHF) provided a stress management presentation to PFP employees on January 23, 2002. Additionally, an all day production pause was held January 25, 2002 to re-emphasize safety and housekeeping



BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Deactivation Initiative ¾ The conceptual PFP Accelerated Deactivation Initiative identifying enabling decisions and path forward to complete the PFP decommission project six years early with additional savings estimated at approximately $350-$400M is nearing completion. This initiative is targeted for presentation to DOE-HQ in February.

RL Process Approval ¾ RL authorization was obtained to process Criticality Mass Laboratory (CML) solutions in C-line utilizing Loss on Ignition (LOI) to measure moisture content. This approval was based on extensive CML solution experimental testing conducted by Pacific Northwest National Laboratory (PNNL) and the Plutonium Finishing Plant's Plutonium Process Support Laboratory (PPSL). The testing also provided data supporting processing the CML solution at higher production rates (50 gm/l Pu vs. 50 gm/l Pu+U).

Opportunities for Improvement

Nothing to report.

UPCOMING ACTIVITIES

Complete shipment of Hanford Ash to the Central Waste Complex in mid February 2002.

Resume Outer Can Welder operations in late February.

Complete processing of Critical Mass Laboratory material in late February.

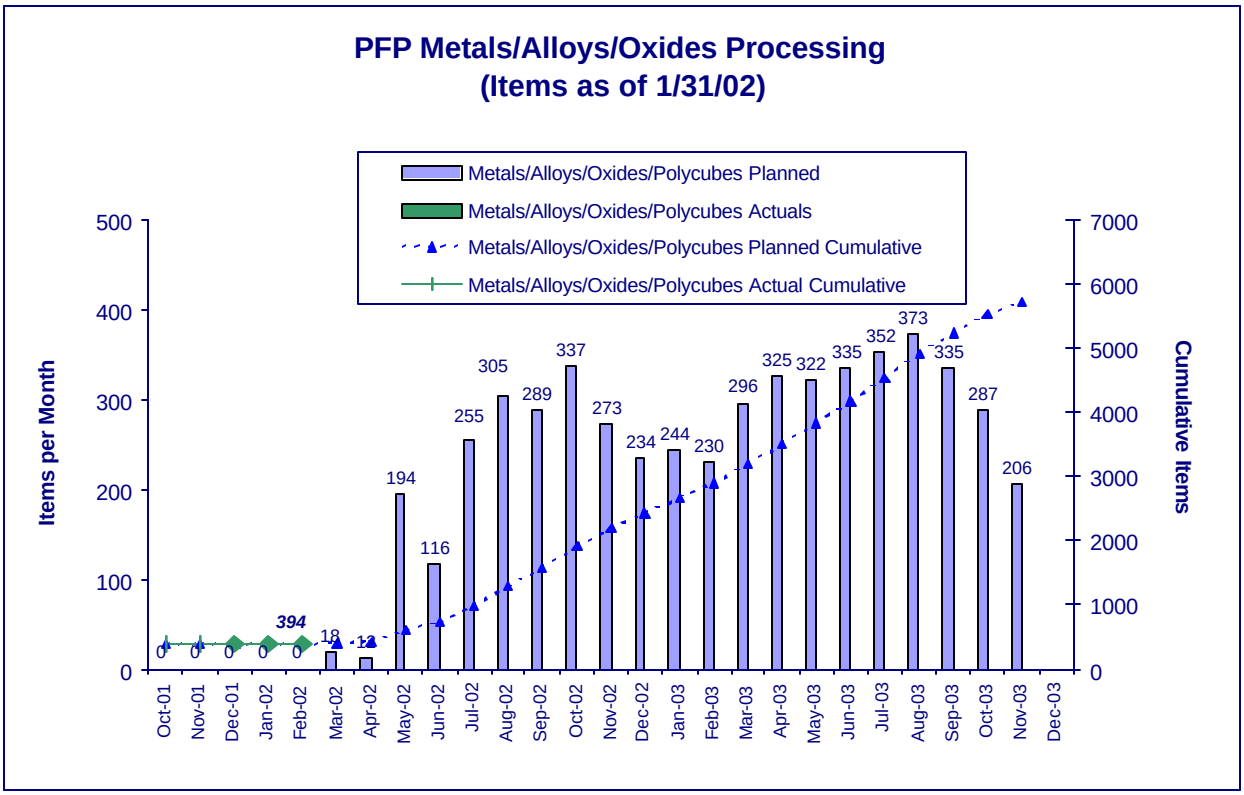
Complete Project W-460 construction of the 2736-ZB building security entrance in late February.

MILESTONE ACHIEVEMENT

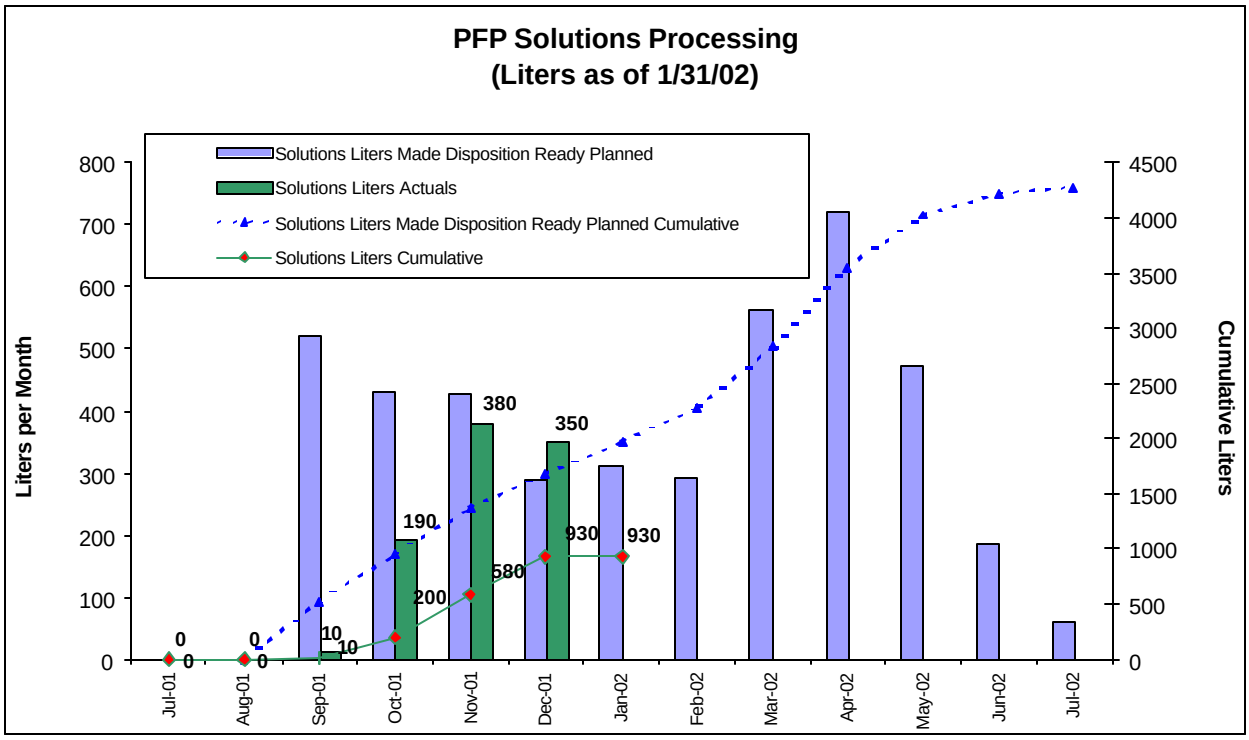
Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comments
TRP-01-501	Package Alloys for disposition to WIPP or stabilize & package per DOE-STD-3013 criteria	DNFSB	06/30/2001		Moisture Measurement Resolution +60 Days	
TRP-04-505	Hot Startup of the 2736-ZB Stabilization & Packaging System	PI	11/27/2001	11/29/2001	11/29/2001	Complete
TRP-02-505	Complete Direct Discard of Selected Solutions	TPA	03/31/2002			On Schedule
TRP-01-500	Complete Stabilization & Packaging of Plutonium Solutions	DNFSB	07/31/2002		10/16/2002	On schedule to the baseline but behind schedule to the DNFSB milestone.
TRP-02-501	Complete Stabilization & Packaging of Polycubes	DNFSB	08/31/2002		03/21/2003	On schedule to the baseline but behind schedule to the DNFSB milestone.
TRP-02-504	Complete Repackaging & Shipment of Hanford Ash to CWC	TPA	08/31/2002			Ahead of schedule
TRP-04-506	Completion of all PU Stabilization & Packaging	PI Stretch	02/18/2004			On schedule
TRP-04-507	Complete Repackaging & Shipment of Sand, Slag and Crucible to CWC	TPA	01/30/2004			On Schedule
TRP-03-500	Complete Stabilization & Packaging of Residues	DNFSB	04/30/2004			On Schedule
TRP-05-500	Complete Stabilization & Packaging of Oxides >30% Pu/U	DNFSB	05/31/2004			On Schedule
TRP-08-500	Dismantlement NEPA/ CERCLA Decision Document Complete	RL	09/30/2005			On Schedule
TRP-06-501	Complete 100% of Legacy Pu Holdup Removal & Disposition	PI Stretch	09/30/2006			On Schedule
TRP-06-502	232-Z & PPSL Annex Demolished to Slab-on-Grade	PI Stretch	09/30/2006			On Schedule
TRP-06-503	Protected Area Reduced to 2736-Z/ZB and Yard Storage	PI Stretch	09/30/2006			On Schedule
TRP-06-504	Relocate SNM Required to Reduce the PFP Protected Area	PI Stretch	09/30/2006			On Schedule

PERFORMANCE OBJECTIVES

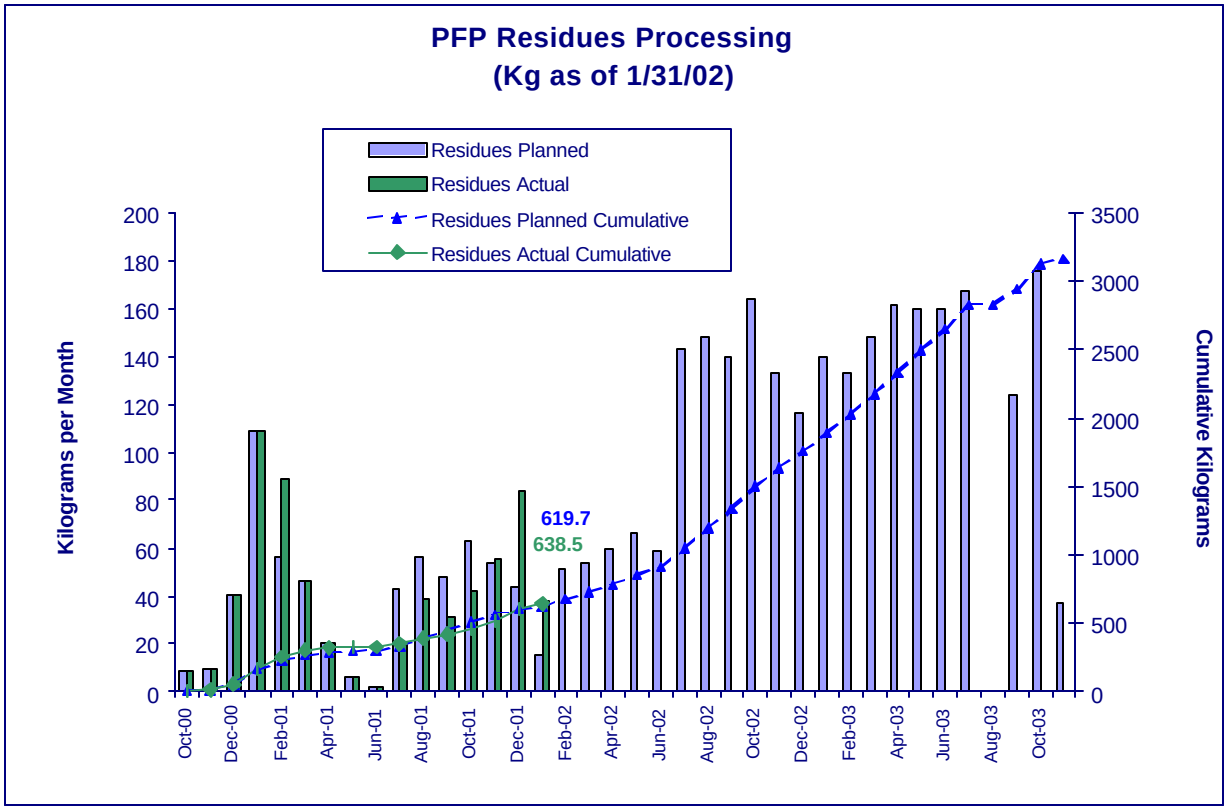
METALS/ALLOYS/OXIDES STABILIZATION

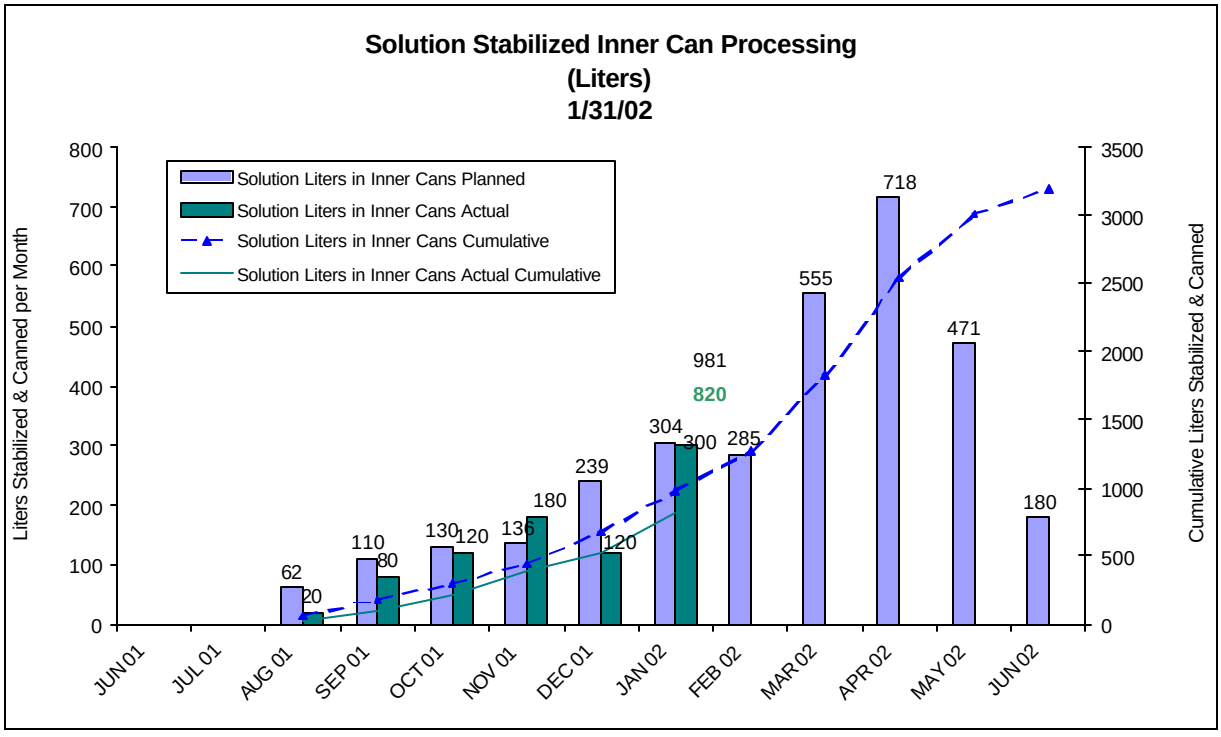


SOLUTIONS STABILIZATION



RESIDUE STABILIZATION





FY 2002 SCHEDULE / COST PERFORMANCE – ALL FUND TYPES
FISCAL YEAR TO DATE STATUS – ($000)

		BCWS	BCWP	ACWP	FYTD SV $	CV $	SV %	CV %	BAC
WBS 3.3.3.1	Maintain Safe and Secure SNM	1,626.4	1,414.7	1,240.1	(211.7)	174.6	-13%	12%	5,211.1
WBS 3.3.3.2	Maintain Safe and Compliant PFP	8,522.3	8,666.7	8,842.0	144.4	(175.3)	2%	-2%	26,544.4
WBS 3.3.3.3	SNM Stabilization	10,696.8	6,835.4	7,698.3	(3,861.4)	(862.9)	-36%	-13%	28,762.1
WBS 3.3.3.4	Disposition SNM	1,326.6	1,469.4	908.8	142.8	560.6	11%	38%	4,178.9
WBS 3.3.3.5	Disposition PFP Facility	515.3	412.6	135.2	(102.7)	277.4	-20%	67%	1,635.6
WBS 3.3.3.6	PFP Project Management Support	5,420.6	5,523.5	5,880.5	102.9	(357.0)	2%	-6%	11,192.6
	Total:	**$28,108**	**$24,322**	**$24,705**	**($3,786)**	**($383)**	**-13%**	**-2%**	**$77,525**
WBS 3.3.3.7	W-460 PuSH Line Item Support	297	570	542	273	28	92%	5%	1,119
	Total:	**$28,405**	**$24,892**	**$25,247**	**($3,513)**	**($355)**	**-12%**	**-1%**	**$78,644**

FY TO DATE SCHEDULE / COST PERFORMANCE

The twelve percent unfavorable schedule variance continues to be primarily attributable to a change in the moisture measurement method for impure oxides as well as Project W-460 construction delays that impacted startup of the 2736-ZB Stabilization and Packaging Equipment. Also contributing to this variance are continued resolution of the Outer Can Welder (OCW) porosity issue and Segmented Gamma Scan Assay System (SGSAS) equipment problems supporting Hanford Ash repackaging. Additionally, delay in delivery of Pipe Overpack Containers and new NDA equipment in support of the Residues Project contribute to this variance. Notable progress within the Solutions Stabilization Project is partially offsetting this variance.

The current unfavorable one percent cost variance is primarily attributable to an increase in material and staff support, including overtime, required to restore depleted consumable levels and preventative/ corrective maintenance activities. Additionally, resolution of operational issues related to moisture measurement of high purity oxides and weld porosity issues with the Outer Can Welder (OCW) have resulted in higher than planned costs. The actual cost of labor liquidating at a higher than planned is also a contributing factor. Mitigating these incremental costs are PFP staffing underruns that are 8.2 percent below current FYTD planned levels.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, Fiscal Year to Date (FYTD) Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

SCHEDULE VARIANCE ANALYSIS: (-$3.5M)

3.3.3.1 Maintain Safe & Secure SNM

Description and Cause: The thirteen percent unfavorable schedule variance is attributable to the re-evaluation of the approach for packaging and storage of nuclear material as previously identified in the Remote Monitoring System upgrade.

Impact: The Remote Monitoring System is being descoped. Potential lifecycle cost impacts are being addressed as part of this change.
Corrective Action: Baseline Change Request CP-02-013 is being processed that reduces the upgrade to a demonstration scale level.

3.3.3.2 Maintain Safe & Compliant PFP

Description and Cause: The current two percent schedule favorable variance is within the reportable threshold.
Impact: None.
Corrective Action: None.

3.3.3.3 SNM Stabilization

Description and Cause: The current thirty-six percent unfavorable schedule variance is attributable to a change in the moisture measurement method for impure oxides as well as Project W-460 construction delays that impacted startup of the 2736-ZB Stabilization and Packaging Equipment. Also contributing to this variance are continued resolution of the Outer Can Welder (OCW) porosity issue and Segmented Gamma Scan Assay System (SGSAS) equipment problems supporting Hanford Ash repackaging. Additionally, delays in delivery of Pipe Overpack Containers in support of the Residues Project contribute to this variance. Notable progress within the Solutions Stabilization Project is partially offsetting this variance.
Impact: The transition to an RL acceptable alternate moisture measurement technology has driven completion of solutions and polycube stabilization and packaging two and a half months beyond the Defense Nuclear Facilities Safety Board (DNFSB) milestone dates to October 16, 2002 and March 21, 2003 respectively. At the current time only minimal impact is forecast due to the Outer Can Welder (OCW) weld porosity issue and late receipt of the Pipe Overpack Containers. Although Hanford Ash repackaging has been impacted by problems with the Segmented Gamma Scan Assay System (SGSAS) this activity is expected to complete in mid-February to support the August 31, 2002 milestone completion date for shipment to the Central Waste Complex (CWC). Use of the Thermal Gravimetric Analysis for determining moisture measurement of impure oxides (e.g. alloys) has yet to be approved by RL.
Corrective Action: Two TGA units have been installed as part of Project W460 to replace Supercritical Fluid Extraction system (SFE) as the moisture measurement method in 2736-ZB. Delivery of Pipe Oover Pack containers to support residue stabilization is expected in February-March 2002. FH continues to work with Savannah River Technical Center (SRTC) to meet SRTC acceptance criteria for 3013 containers.

3.3.3.4 Disposition SNM

Description and Cause: The primary cause of the eleven percent favorable variance is attributable to completing FY01 residue storage carryover activities in addition to routine FY 02 planned workscope.
Impact: None.
Corrective Action: None.

3.3.3.5 Disposition PFP Facility

Description and Cause: The twenty percent unfavorable schedule variance is attributable to a later than planned transition of staff from Project W-460 and evolving threat guidance from DOE-HQ that has delayed start of FY 2002 workscope.
Impact: None.
Corrective Action: None required.

3.3.3.6 PFP Project Management & Support

Description and Cause: The current 2 percent favorable variance is within the reportable threshold.
Impact: None.
Corrective Action: None.

COST VARIANCE ANALYSIS: (-$0.4M)

3.3.3.1 Maintain Safe & Secure SNM

Description and Cause: The twelve percent favorable cost variance is attributable to a continuous, but improving, staff underrun that has not impacted completion of routine work scope. Mitigating this favorable variance is the use of overtime required to support construction of the enhanced Security Access Entrance in 2736-ZB.
Impact: Staffing underruns to date have not impacted scheduled completion of routine work.
Corrective Action: The labor underrun is expected to self-correct. Overtime usage is expected to moderate upon completion of the Security Access Entrance (ECD: 03/01/02).

3.3.3.2 Maintain Safe & Compliant PFP

Description and Cause: The two percent unfavorable cost variance is within the reportable threshold.
Impact: None.
Corrective Action: None.

3.3.3.3 SNM Stabilization

Description and Cause: The thirteen percent unfavorable cost variance is attributable to increased per unit cost of production caused by delays in Project W-460 construction that impacted startup of the Bagless Transfer Container operation in 2736-ZB, weld porosity issues with the Outer Can Welder, and costs associated with the enhanced 2736-ZB security entrance that were originally capital funded.
Impact: Funds management of project under runs and carry over funds identified are being used to offset the overruns.
Corrective Action: None.

3.3.3.4 Disposition SNM

Description and Cause: The thirty-eight percent favorable cost variance is primarily attributable to efficiently completing work with less than planned staff and late receipt of a contract estimate for update of the Safety analysis report for packaging (SARP).
Impact: None.
Corrective Action: None.

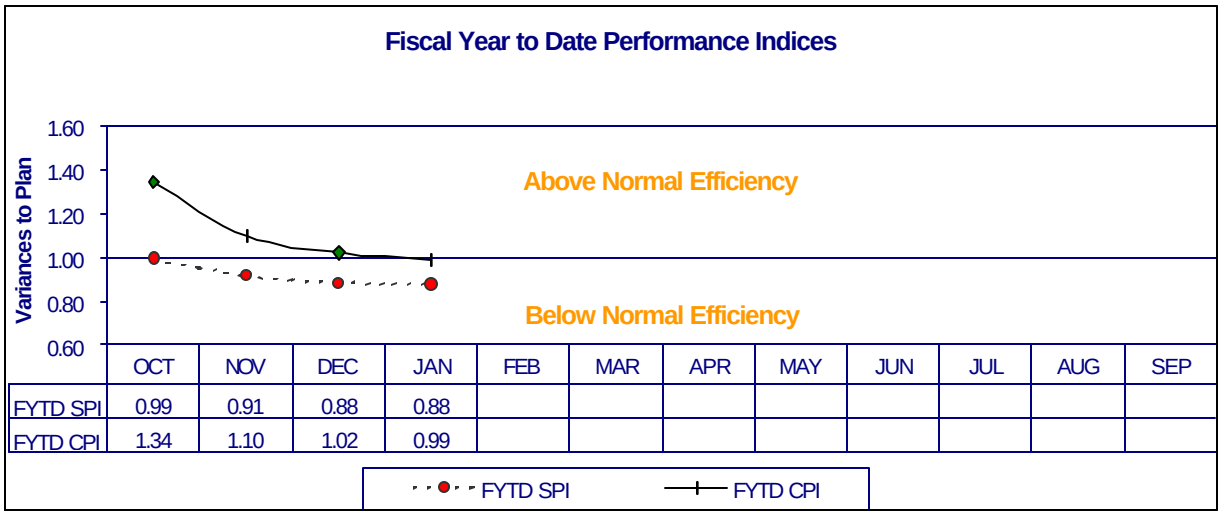
3.3.3.5 Disposition PFP Facility

Description and Cause: The sixty-seven percent favorable cost variance is directly attributable to a slower than planned transition of technical staff from Project W-460 to the Decommissioning Project, and decision to wait on placement of contracts until PFP staffing decisions are complete.
Impact: None.
Corrective Action: Transition of technical staff from Project W-460 and the Direct Discard campaign is underway to support the Decommissioning Project's planned staffing levels. Contracts are now being placed as planned.

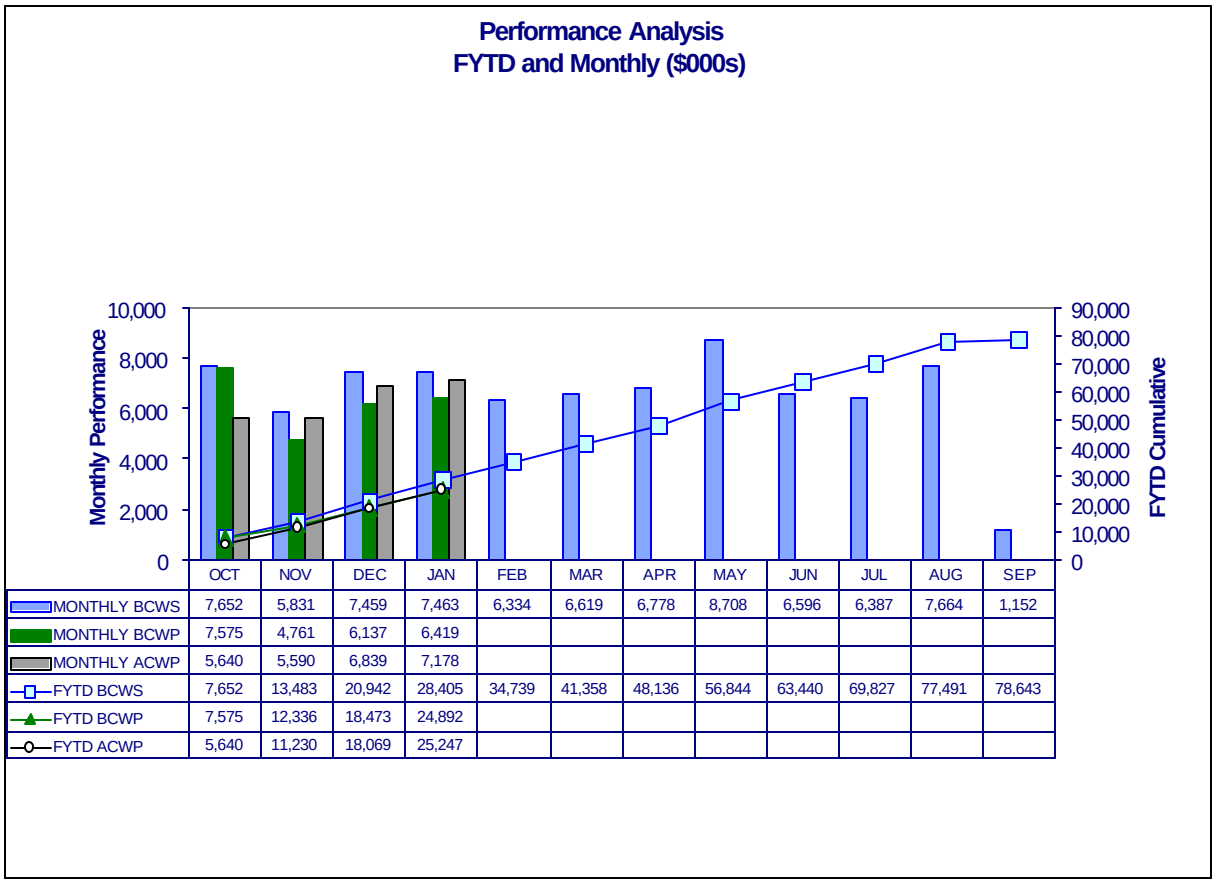
3.3.3.6 PFP Project Management & Support

Description and Cause: The six percent unfavorable cost variance is attributable to the actual cost of labor liquidating at a higher cost than planned. Staffing levels supporting this account are also currently higher than planned.
Impact: Impacts are unknown until charging analysis is completed.
Corrective Action: Management is reviewing appropriate charging in this WBS element.

Schedule / Cost Performance (MONTHLY AND FYTD)



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
FYTD SPI	0.99	0.91	0.88	0.88								
FYTD CPI	1.34	1.10	1.02	0.99								



	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MONTHLY BCWS	7,652	5,831	7,459	7,463	6,334	6,619	6,778	8,708	6,596	6,387	7,664	1,152
MONTHLY BCWP	7,575	4,761	6,137	6,419								
MONTHLY ACWP	5,640	5,590	6,839	7,178								
FYTD BCWS	7,652	13,483	20,942	28,405	34,739	41,358	48,136	56,844	63,440	69,827	77,491	78,643
FYTD BCWP	7,575	12,336	18,473	24,892								
FYTD ACWP	5,640	11,230	18,069	25,247								

FUNDS MANAGEMENT

FYTD FUNDS VS SPENDING FORECAST ($000)

	FH Funds Reallocation	FYSF	Variance
3.3.3 **Nuclear Materials Stabilization**			
CP03			
Project Completion - Operating	$ 81,891	$ 83,457	$ (1,566)
- Line Item	$ 895	$ 895	0
Total	$ 82,786	$ 84,352	$ (1,566)

[Status through January 2002]

ISSUES

Technical Issues

Issue: Moisture measurement of stabilized oxides via supercritical fluids extraction was disapproved for use by RL. Completion of stabilization and packaging of plutonium alloys and impure oxides is contingent upon installation and testing of alternate moisture measurement equipment.

Impact: As a result, there is no approved method for moisture testing of all the various categories of stabilized oxides. This change in moisture measurement technology results in an additional $294K FY 2002 cost and a fifty-four day delay in completing solutions and polycube processing and stabilization activities. These modifications are documented in Baseline Change Request CP03-02-003 that has recently received RL approval. Completion of alloy processing will be completed within 60 days on approval of a moisture measurement method.

Corrective Action: The Thermogravimetric Analyzer (TGA) has been identified as an alternative plutonium oxide moisture measurement system replacing the Supercritical Fluid Extraction system for pure oxides. To date, two TGAs have been delivered, installed and are operational in 2736-ZB. RL has approved these TGAs for use in moisture measurement of high purity oxides. Use of the TGAs for determining moisture measurement of impure oxides has yet to be approved by RL. Three additional TGAs for use in 234-5Z have been procured, delivered and plant and vendor personnel have completed initial testing. Facility modification and equipment installation is scheduled for a mid March completion. Acceptance Test Procedures and Operational Test Procedures System for the TGAs are expected to be complete in late March 2002 with startup operation expected in early April.

Issue: The surface weld porosity of 3013 outer containers exceeds American Society of Mechanical Engineer (ASME) Boiler and Pressure Vessel Code, Section VIII standards of .041-inch diameter for isolated pores and .031 inch for pores within one inch proximity.

Impact: A number of 3013 outer containers may need to be repackaged to meet ASME standards.

Corrective Action: Weld parameter changes (10 percent reduction in rotation speed and 50 percent reduction in can body chamber) have been documented in the welding procedures. An additional twenty-five can test run has been completed and the cans have been shipped to the Savannah River Technology Center (SRTC) for destructive and nondestructive analysis. Upon receipt of the report from SRTC, PFP management and RL will coordinate the final decision on the weld porosity issue prior to restart of Outer Can Welder operations.

Regulatory, External, and DOE Issues and DOE Requests

Issue: No other issues identified at this time.
Impact: None at this time.
Corrective Action: None at this time.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

Level 4 WBS	BCR No.	Date Originated	Description	Impact		Date Approved	Status
				Days	Dollars ($000s)		
3.3.3.1 / 3	FSP-01-074	09/18/01	W-460 Accelerated Closure		664	02/14/02	Approved
3.3.3.1 / 2 / 3 / 4 / 5 / 6	CP03-02-001	09/30/01	FY 2002 MYWP Bridge	--	--		At DOE
3.3.3.1 / 3 / 5 / 6	CP03-02-003	11/04/01	Moisture Measurement Impacts	54	294	02/14/02	Approved
3.3.3.3	CP03-02-006	11/05/01	Solutions Milestone	--	--	01/23/02	Approved
3.3.3.3	CP03-02-009	11/13/01	Project W-460 TPC Change	--	--	02/14/02	Approved
3.3.3.2	CP03-02-010	11/13/01	Revise Maintenance Budget	--	--	12/28/01	Approved
3.3.3.3	CP03-02-011	12/14/01	Direct Discard TPA Milestone	--	--	02/13/02	Approved
3.3.3.3	CP03-02-012	12/14/01	SS&C TPA Milestone	--	--	02/14/02	Approved
3.3.3.1	CP03-02-013	01/08/02	3013 Surveillance System	--	(1,075)	02/21/02	At PFP
3.3.3.3	CP03-02-014	02/06/02	SRS Acceptance Criteria #2	--	$664	02/21/02	At PFP
3.3.3.6	CP03-02-015	02/19/02	Remove FY 2002 Neg Mgmt Res		($6,289)		At PFP
3.3.3.3/5	CP03-02-016	02/19/02	Replace / Defer FY 2002 Work Scope	--	($750)		At PFP